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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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| 08/914,244 | 08/19/97 | LEGENORE | U 022/01627 |

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| EXAMINER |
|------------|
| BULLOCK, J |

| ART UNIT | PAPER NUMBER |
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| 1764 | 17 |

DATE MAILED:

03/27/98

**Please find below and/or attached an Office communication concerning this application or
pr ceeding.**

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
08/914,244

Applicant(s)
Legendre, et al.

Examiner
In Suk Bullock

Group Art Unit
1764



☒ Responsive to communication(s) filed on Aug 19, 1997

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-21 is/are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-21 is/are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☒ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☒ received in Application No. (Series Code/Serial Number) 08/501,872

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☐ Notice of References Cited, PTO-892

☐ Information Disclosure Statement(s), PTO-1449, Paper No(s). _____

☐ Interview Summary, PTO-413

☐ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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Claim Rejections - 35 USC § 112

Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 1-3 and 11-15 recite the phrase "effective amount" which renders claims 1-21 indefinite because it is not known what "effect" is desired.

Claim Rejections - 35 USC § 102

Claims 1-5 and 13-15 are rejected under 35 U.S.C. § 102(b) as being anticipated by Goodboy (U.S. 4,364,858).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. § 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The reference to Goodboy teaches a Claus catalyst in the form of activated alumina containing sodium oxide in an amount greater than 0.1 wt% of the catalyst, preferably between 0.1 and 2.5 wt% (col. 3, lines 54-59). The catalyst may also be used as a catalyst base to which additive compounds such as molybdenum, cobalt, nickel, calcium and others known to those skilled in the art may be added to enhance the specific properties of the catalyst (col. 6, lines 62-

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68). Goodboy teaches that the catalyst of the invention has increased resistance to sulfate poisoning and higher catalytic activity with respect to compounds such as H_2S , SO_2 , COS and CS_2 . In addition, Goodboy teaches that organic sulfur compounds are removed by hydrolysis (col. 1, lines 32-68).

Claim Rejections - 35 USC § 103

Claims 1-21 are rejected under 35 U.S.C. § 103 as being unpatentable over Goodboy (U.S. 4,364,858) and Dupin et al. (U.S. 5,244,648) or Carithers (U.S. 3,856,708).

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. § 103, the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 C.F.R. § 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of potential 35 U.S.C. § 102(f) or (g) prior art under 35 U.S.C. § 103.

The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

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The factual inquiries set forth in *Graham v. John Deere Co.*, 148 USPQ 459, that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or unobviousness.

The reference to Goodboy teaches a Claus catalyst in the form of activated alumina containing sodium oxide in an amount greater than 0.1 wt% of the catalyst, preferably between 0.1 and 2.5 wt% (col. 3, lines 54-59). The catalyst has a surface area greater than 100 m²/g, preferably greater than 300 m²/g (col. 3, lines 64-68). The catalyst may also be used as a catalyst base to which additive compounds such as molybdenum, cobalt, nickel, calcium and others known to those skilled in the art may be added to enhance the specific properties of the catalyst (col. 6, lines 62-68). Goodboy teaches that the catalyst of the invention has increased resistance to sulfate poisoning and higher catalytic activity with respect to compounds such as H₂S, SO₂, COS and CS₂. In addition, Goodboy teaches that organic sulfur compounds are removed by hydrolysis (col. 1, lines 32-68).

The differences between Goodboy and the claimed invention are that Goodboy does not teach any of the materials listed in claim 6 such as cellulose and size of the beads.

The reference to Dupin et al. teach active alumina agglomerates comprising sodium (col. 3, lines 18-49), cellulose (col. 3, lines 55-61), alkaline earth metal salts (col. 4, lines 42-64) and

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silica (col. 8, lines 39-42). Agglomeration of the catalyst is carried out known manners such as pelletizing, extrusion, and shaping into beads (col. 3, lines 50-54). The alumina agglomerates have variety of applications such as catalysts or catalyst supports (col. 8, lines 37-39 and col. 8, line 64 thru col. 9, line 8). Depending upon the use of the alumina agglomerates, various pore sizes may be produced ranging in sizes less than 100 angstrom to greater than 10,000 angstrom (col. 8, lines 54-63).

Carithers teaches an activated alumina catalyst support having a macroporous structure with a total pore volume of at least about 0.7 ml/g, wherein a major portion of the total pore volume from pores larger than 700 angstrom is contributed by pores which are larger than 3,000 angstrom (col. 2, lines 45-67). The activated alumina is mixed with a filler material such as cellulose to facilitate formation of desirable macropores (col. 3, lines 47-67). It would have been obvious to one having ordinary skill in the art at the time the invention was made to have modified the process of Goodboy and add cellulose as taught by Dupin et al. and Carithers because cellulose is a known pore forming agent and desired pore sizes may be obtained.

With respect to the claimed diameter size of the beads, Goodboy teaches that the size of the catalysts may be adapted to particular situation, i.e., fixed or mobile bed or fluid bed or with aerial suspension (col. 7, lines 1-4).

With respect to the claimed limitation wherein the catalyst has a specific surface of up to about 360 m²/g, Goodboy teaches a catalyst having a surface area greater than 100 m²/g (col. 3, lines 65-68) which encompasses the claimed surface area. Thus, the subject matter as a whole

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would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, see In re Malagari, 182 USPQ 549 (CCPA 1974).

In view of the foregoing, the claims have failed to patentably distinguish over the applied art.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to In Suk Bullock whose telephone number is (703) 308-3795. The examiner can normally be reached on Monday through Friday from 8:30 AM to 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mr. Glenn Caldarola, can be reached on (703) 305-6118. The fax phone number for this Group is (703) 305-3599.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.

J. Bullock

I.B.
May 26, 1998

Glenn Caldarola
GLENN CALDAROLA
SUPERVISORY PATENT EXAMINER